UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,298	05/07/2001	Ralph Jason Hemphill	VT0291-US1	3118

24473 7590 08/14/2003

STEVEN M MITCHELL
PACESETTER INC
701 EAST EVELYN AVENUE
SUNNYVALE, CA 94086

EXAMINER	
NICOLAS, WESLEY A	

ART UNIT	PAPER NUMBER
1742	

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/851,298	HEMPHILL ET AL.
	Examiner	Art Unit
	Wesley A. Nicolas	1742

-- Th MAILING DATE of this communication app ars on th cov r she t with th correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) *16-25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .
4) ☒ Interview Summary (PTO-413) Paper No(s). *3* .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

   I. Claims 1-15, drawn to a process, classified in class 205, subclass 666.

   II. Claims 16-25, drawn to a product-by-process, classified in class 428, subclass 98+.

2. The inventions are distinct, each from the other because of the following reasons:

3. Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another materially different process such as regular chemical etching (not electrolytic etching).

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Steven Mitchell on July 28, 2003, a provisional election was made **without** traverse to prosecute the invention of Group I, claims 1-15. Affirmation of this election must be made by applicant in replying to this Office action. Claims 16-25 have been **withdrawn** from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 1-3, and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arora (4,518,471), and further in view of Sudduth et al. (U.S. 6,224,738 B1).

Arora teaches a process for etching an anode foil, comprising:

(a) placing an unetched anode foil in a first high temperature etch electrolyte solution (Abstract and col. 2);

(b) initially etching said anode foil (col. 2, lines 53-58);

(c) placing the anode foil in a second etch electrolyte solution (col. 2, lines 59-64); and

(d) etching said anode foil (col. 2, lines 59-64), such that the exposed area of the foil is further etched.

Arora fails to specifically teach the placement of a mask with a grid of openings over the etched foil prior to a secondary etching.

Sudduth et al. teach or placing a mask with a grid of openings over the etched anode foil exposing portions of the foil surface (generally, col. 4, lines 5-19);

Claim 1 is rejected because it would have been obvious and within the ordinary skill in the art at the time the invention was made to have modified Arora to use the mask as taught by Sudduth et al. because Sudduth et al. teach the utilization of a mask (generally, col. 4, lines 5-19) which would have allowed the user to produce etch tunnels at open sites in the mask (col. 4, lines 25-33) which increase the surface area of the substrate while also increasing the capacitance of the foil.

Claims 2-3 are rejected because Arora teach that the first electrolyte solution is based on a halide such as chloride (claim 1) and contains an oxidizer (*i.e.* HCl).

Claim 5 is rejected because Arora teach that the first etch electrolyte solution and the second etch electrolyte solution are the same (claim 1).

Claims 6-7 are rejected because the specific mask exposure area would have been considered a result effective variable by one having ordinary skill in the art. As

such, one having ordinary skill would have routinely optimized the mask exposure area of the substrate to obtain the desired tunnel density attendant therewith. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In re Aller, 105 USPQ 233.

Claim 8 is rejected because it would have been obvious and within the ordinary skill in the art at the time the invention was made to have modified Arora such that exposed areas could be re-etched as taught by Sudduth et al. because Sudduth et al. teach that exposed areas are re-etched (generally, col. 4, lines 5-19) which would have increased the tunnel density of the foil.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Arora - Sudduth et al. combination, as applied to claim 2 above, and further in view of Hatanaka et al. (5,914,852).

The Arora - Sudduth et al. combination are as applied, argued, and disclosed above and incorporated herein but fail to specifically teach an oxidizer such as peroxide or persulfate.

Hatanaka et al. teach the use of an oxidizer such as peroxide or persulfate in the etching of anode foil (col. 9, lines 6-14).

Claim 4 is rejected because it would have been obvious and within the ordinary skill in the art at the time the invention was made to have modified the Arora - Sudduth et al. combination to use the peroxide or persulfate oxidizers in etching the anode foil as

taught by Hatanaka et al. because Hatanaka et al. teach the use of an oxidizer such as peroxide or persulfate in the etching of anode foil (col. 9, lines 6-14) which would have produced desirable electrical characteristics in the electrode foil (col. 2).

11. Claims 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Arora - Sudduth et al. combination, as applied to claim 1 above, and further in view of Winningham et al. (6,579,463).

The Arora - Sudduth et al. combination are as applied, argued, and disclosed above and incorporated herein but fail to specifically teach the specific mask pattern.

Winningham et al. teach of a hexagonal, square, and oblique mask arrays (col. 8, lines 49-57).

Claims 9-15 are rejected because it would have been obvious and within the ordinary skill in the art at the time the invention was made to have modified the Arora - Sudduth et al. combination to use a mask array of different geometric shapes as taught by Winningham et al. because Winningham et al. teach of a hexagonal, square, and oblique mask arrays (col. 8, lines 49-57) which would have allowed the user to tailor the specific surface area of masked regions.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley Nicolas whose telephone number is (703)305-0082. The examiner can normally be reached on Mon.-Thurs. from 7am to 5pm.

The Supervisory Primary Examiner for this Art Unit is Roy King whose telephone number is (703) 308-1146.

The fax number for this Group is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Wesley A. Nicolas

August 7, 2003